

(No Model.)

F. C. BROWN.
FOUNTAIN PEN.

No. 533,942.

Patented Feb. 12, 1895.

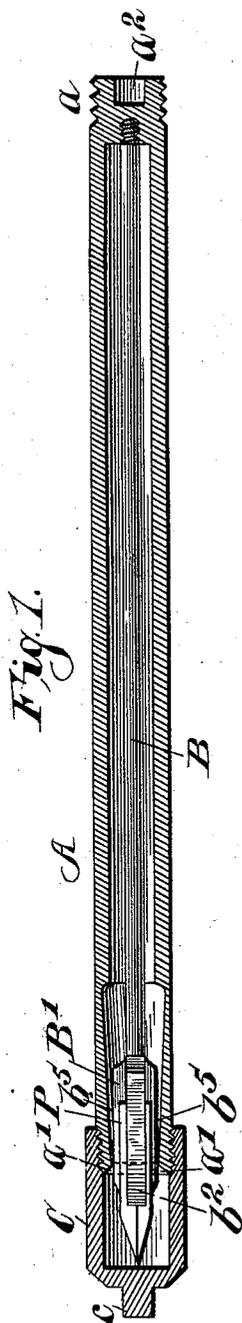


Fig. 1.

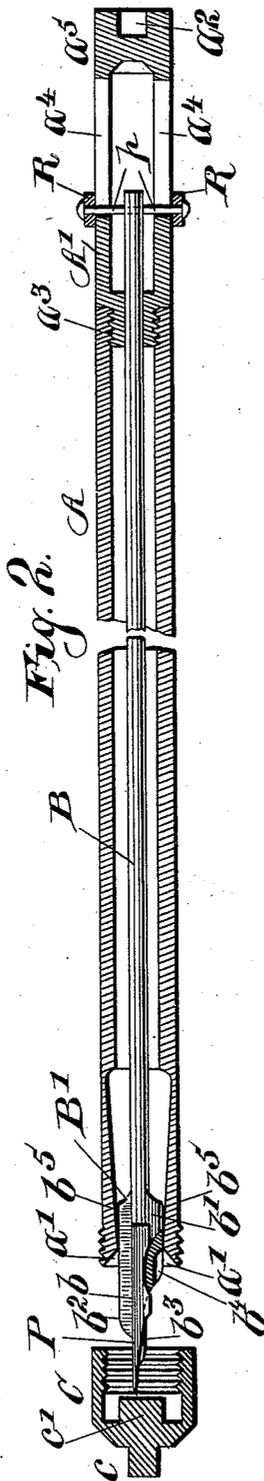


Fig. 2.

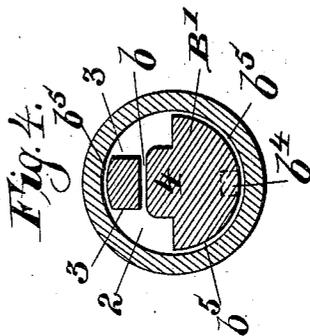


Fig. 4.

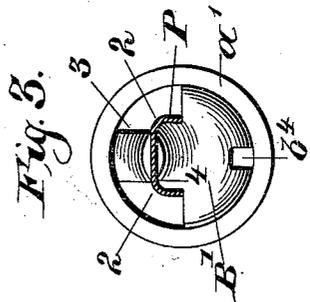


Fig. 5.

Witnesses:
H. J. Winterich
Henry C. ...

Inventor:
Francis C. Brown,
 by *Henry M. ...*

UNITED STATES PATENT OFFICE.

FRANCIS C. BROWN, OF NEW YORK, N. Y.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 533,942, dated February 12, 1895.

Application filed May 21, 1894. Serial No. 511,955. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS CASHEL BROWN, a citizen of the United States, residing in the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Fountain-Pens; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters and figures of reference marked thereon, which form a part of this specification.

My invention has relation to fountain pens, and this class of pens as heretofore constructed presents disadvantages that are a source of great annoyance to those using the same, as well as of frequent injury to or soiling of wearing apparel, irrespective of the annoyance due to liability of soiling the fingers. It has heretofore been found impossible to provide a cap for the pen that is or will remain fluid tight, or that is so constructed as to prevent ink from the fount flowing thereto, so that it is necessary in placing the pen in the pocket of a garment to see that the capped end is upward; otherwise the cap will fill with ink, which is liable to ooze out at the cap joint. There is another disadvantage inherent to the necessity of carrying the pen when not in use in the manner described, in that the pen becomes dry in a short time, and when it is desired to use the same, it becomes necessary to start a flow of ink, which is usually done by imparting a jerking or sudden movement to the pen in such manner as to expel a portion of the ink from the fount.

My invention is designed to overcome these disadvantages and furthermore to materially simplify the construction of this class of pens, as will now be fully described, reference being had to the accompanying drawings, in which—

Figures 1 and 2 are longitudinal sectional views at right angles to each other of fountain pens embodying my invention. Fig. 3 is a front end view of Figs. 1 and 2, and Fig. 4 is a cross section of the fount and the part B' in rear of its auxiliary feed slot b⁴.

Similar symbols of reference indicate like

parts wherever such may occur in the figures of drawings just described.

Referring to Fig. 1, A indicates a tubular handle or holder, constructed of one piece and closed at one end, a, said holder constituting the ink fount. B indicates the pen supporting bar, one end of which is secured centrally to the closed end of the fount. The other end, B' of the bar is also cylindrical in cross section and of such a diameter as to fit the open end of the fount A practically fluid tight. Said enlarged front end B' of the bar B is slitted or slotted longitudinally to form a bearing for the pen P. In practice the slit or slot b is formed above the major axis of the cylindrical portion, and segments thereof are cut away to form a longitudinal ledge b', whereby air ducts, 2, 2, are formed on each side of the said cylindrical body between the vertical walls, 3, 3, the ledges or shelves b' and the inner walls of the fount A, as clearly shown in Fig. 3, from which it will be seen that the cut-away portion extends below the slot b, whereby a central rib or bearing 4 is formed for the under side of the shank of the pen P, which is preferably U-shaped in cross section to fit said bearing snugly, the ledges b' on opposite sides forming also bearings for the edges of the vertical sides of said pen shank.

The two tongues b² b³ formed by slotting the cylindrical portion are of such length that when the pen is in proper position in the slot for use, the lower tongue will terminate near the point of the pen, whereby a bottom feed is provided, said lower tongue being suitably attenuated, as shown in Fig. 2. However, the upper tongue b², may also be extended so as to project over the pen P to near the point thereof, whereby a top and bottom feed is provided. In either case, I provide two more or less elastic tongues which firmly grasp the pen P, yet if desired, the said pen may be secured to its bearings by riveting or stapling.

With a view to facilitate the supplying of ink to the fount, I preferably make the orifice or mouth thereof flaring outwardly as shown at a', which mouth is closed by the usual cap C, when the pen is not in use, said cap fitting or screwing onto the open as well as the closed end a of the fount, as usual, or the said cap may be provided with a stud c fit-

ting a socket a^2 in said closed end. There is, however, another advantage in making the mouth of the fount flaring outwardly when the pen support has endwise motion in the fount, as hereinafter described, in which case the enlarged portion B' acts more or less like a piston when drawn into the fount A, and when said fount is full, ink is liable to be forced out along the channels 2, so that unless the mouth of the fount is widened to receive such ink the latter would spill or run along the outside of the fount.

In a fountain pen constructed as shown in Fig. 1, instead of supporting the pen P from a bar, B' , the portion B of said bar may be dispensed with, and the end B' thereof fitted in the outer open end of the fount A, as will be readily understood.

A fountain pen constructed as described does not overcome the liability to leakage at the cap C, nor prevent ink from entering the said cap when the pen is carried in the pocket with the cap downward; the illustration being given chiefly as a modification of construction, wherein the pen support is stationary, the construction being very simple and hence adapted for cheaper classes of goods.

In order to prevent ink flowing into the cap, and keep the pen moist with ink when not in use, that is to say, in order to adapt the pen to be carried in the pocket with the pen point down, I so arrange the pen support B as to have endwise motion in the fount A to an extent sufficient to withdraw the pen point completely into the fount, and construct the cap C with a central plug c' that fits fluid tight into the open end of the fount A in front of the pen, thus forming an ink tight closure, the cap being provided with a stud c adapted to fit a socket in the closed end of the fount A, as hereinabove referred to. The cap C may also be constructed to screw on either end of the pen handle or stock, as will be readily understood.

Endwise motion can be imparted to the support B in various ways. For instance, the fount A may be open-ended and screw-threaded interiorly at one end for the reception of an attenuated portion a^3 of an auxiliary tubular section or extension A' , into which the bar B projects, said attenuated portion a^3 performing practically the function of a stuffing box to prevent the ink from entering the section A' . The latter section has two longitudinal slots a^4 diametrically opposite each other, and on said section slides a ring R, to which is riveted or otherwise secured a cross pin p that passes through said slots and through the bar B.

It is obvious that by sliding the ring along section A' in one or the other direction, the bar will be correspondingly moved to project the pen from, or withdraw it into the fount, the amplitude of motion of the bar being such that when at the limit of its movement toward the closed outer end a^5 of section A' ,

the point of the pen P will be far enough from the mouth of the fount A to admit of the insertion of the above described plug for closing the fount when the pen is not in use.

It is obvious that when the pen is withdrawn into the fount, ink can be readily supplied thereto, but that the flow of ink along the enlarged end of the bar may be expedited, I gradually widen the bore of the fount from its mouth inwardly, so as to provide, besides the channels 2, an annular channel b^5 around the enlarged part B' . For the purpose of increasing the flow of ink to the pen whenever this is desired, I provide a groove or channel b^4 in the under side of the enlarged portion B' of bar B, which groove is of such length as not to communicate with the ink fount when the pen is fully projected, as shown in Fig. 2, a perfect closure of the inner end of the groove being obtained when the pen is in the position referred to. It is obvious that when the pen is moved in the fount until the end of groove b^4 lies beyond the smaller diameter of the fount, said groove will be uncovered, and an additional quantity of air will flow into the fount through said groove b^4 thereby correspondingly increasing the volume of ink flowing to the pen.

Any other means than those described for imparting endwise motion to the pen support may be resorted to, such means being well known and having been applied to pencil holders, and I do not desire to claim broadly any particular means for imparting endwise motion to the pen support.

In constructing the cap C, the central plug c' may be made of the same length as the encompassing tubular portion, but inasmuch as the end of the plug is in contact with the ink when the pen is carried with the point down, said end of the plug would be liable to soil the fingers in removing the cap, and for this reason I preferably make it shorter than the encompassing tubular portion, as shown.

Of course, instead of boring the fount so that its interior diameter increases from a certain point inwardly, said fount may be made to taper outwardly, as will be readily understood.

The construction of the feed bar B, B' may be materially simplified by forming the portion B' nearly cylindrical, having a longitudinal rib 4 that serves as a bearing for the pen P, the lower tongue or feed bar b^3 projecting from said body B' , and being formed integral therewith, the upper tongue b^3 being simply laid on the pen; and in order to securely hold the pen between the tongues, it may be riveted or stapled thereto.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. In a fountain pen, a pen support comprising a solid cylindrical body having two tongues projecting therefrom the proximate faces of said tongues forming a bearing for

and adapted to fit snugly against the upper
and under side of the pen, one or both tongues
forming a feed for the pen, and channels
formed in the opposite sides of said body and
5 extending from the rear end thereof along
said bearing, for the purpose set forth.

2. A fountain pen comprising an ink fount
tapering to its open end and having a flaring
mouth, a pen support, as B, B', constructed
10 substantially as described and provided in

the body B' thereof with the short groove b',
and means for imparting endwise motion to
the pen support, for the purpose set forth.

In testimony whereof I have hereto signed
my name in the presence of two witnesses.

FRANCIS C. BROWN.

Witnesses:

HENRY ORTH,
HENRY ORTH, Jr.